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Rapid Geophysical Surveyor Spin-off Company -- Sage Earth Science

A hand-pushed, computerized device capable of locating buried waste hazards such as toxic chemical drums and underground storage tanks has been so successful that the two inventors have formed their own spinoff company. They plan to use the technology in consulting work and hope to eventually market their invention.

The Rapid Geophysical Surveyor has been used to map the location of underground storage tanks, buried hazardous and radioactive waste at the Idaho National Engineering Laboratory (INEL), and at U.S. Department of Defense and Environmental Protection Agency sites.

The technology has broad applications for private industry and government. The increasing number of restrictive environmental regulations is driving the need for this type of service to be used for inspections. For example, property could be checked for environmental hazards prior to purchase.

Glen S. Carpenter and Nick E. Josten, geophysicists at Lockheed Martin Idaho Technologies (LMIT), a contractor for the U.S. Department of Energy at INEL, invented the RGS with the help of Lyle G. Roybal and Robert G. Berg, LMIT mechanical engineers. Carpenter and Josten obtained exclusive rights to the invention and signed a license agreement in which they will pay LMIT an annual royalty for the right to market it. While the technology is being reviewed for a patent, Carpenter and Josten have established an office in Idaho Falls for the new company called Sage Earth Science.

The surveyor costs less than $90,000 to develop with funding from the U.S. Department of Energy's Office of Technology Development.

The hand-pushed instrument employs a wheel that serves as a distance measuring device as the vehicle is pushed along the surface. A magnetometer mounted on the vehicle detects iron as deep as 20 feet below the surface. The data are then displayed as a contour map showing the location of the buried metal. A hand-held magnetometer, which is considered conventional equipment, is capable of collecting and correlating about 2,500 data points a day, while the RGS can collect and process 50,000.

Other geophysical instruments may be incorporated on the RGS, including gamma detectors, chemical detectors, and an electromagnetic system.

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